

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

discrete wavelet transform means for performing  
discrete wavelet transform on respective plural

5 components constructing image data;

coefficient coding means for encoding coefficients  
of subbands generated by said discrete wavelet transform  
means; and

code data generation means for generating code  
10 data, with respect to the respective plural components,  
by arraying respective code data in a predetermined  
ratio.

2. An image processing apparatus comprising:

15 discrete wavelet transform means for performing  
discrete wavelet transform on respective plural  
components constructing image data;

coefficient coding means for encoding coefficients  
of subbands generated by said discrete wavelet transform  
20 means; and

code data generation means for generating code  
data by arraying respective code data of said plural  
components in subband units,

wherein said discrete wavelet transform means  
25 decomposes said plural components into different numbers  
of subbands for at least two components, and wherein



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a discrete wavelet transform step of performing  
discrete wavelet transform on respective plural  
components constructing image data;

a coefficient coding step of encoding coefficients  
5 of subbands generated at said discrete wavelet transform  
step; and -

a code data generation step of generating code  
data by arraying respective code data of said plural  
components in subband units,

10 wherein at said discrete wavelet transform step,  
said plural components are decomposed into different  
numbers of subbands for at least two components, and  
wherein at said code data generation step, the code data  
is generated by arraying the code data of said plural  
15 components in subband units.

7. The image processing method according to claim 6,  
wherein said plural components constructing image data  
include a luminance component and chrominance components.

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8. The image processing method according to claim 6,  
wherein at said code data generation step, said code  
data is sequentially arrayed from a low frequency  
subband.

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9. An image processing apparatus comprising:

discrete wavelet transform means for performing  
discrete wavelet transform on respective plural  
components constructing image data;

coefficient coding means for encoding coefficients  
5 of subbands generated by said discrete wavelet transform  
means; and

code data generation means for generating code  
data by arraying code data corresponding to said  
respective plural components encoded by said coefficient  
10 coding means,

wherein said discrete wavelet transform means  
decomposes said respective plural components into  
different numbers of subbands for at least two  
components, and wherein said code data generation means  
15 generates the code data by arraying a part or whole of  
code data of subbands at the same level among the code  
data corresponding to said respective plural components.

10. The image processing apparatus according to claim 9,  
20 wherein said plural components constructing said image  
data includes a luminance component and a chrominance  
component, and the number of applications of discrete  
wavelet transform by said discrete wavelet transform  
means for said chrominance components is larger than  
25 that for said luminance component.

11. An image processing method comprising:

a discrete wavelet transform step of performing discrete wavelet transform on respective plural components constructing image data;

5 a coefficient coding step of encoding coefficients of subbands generated at said discrete wavelet transform step; and

a code data generation step of generating code data by arraying code data corresponding to said  
10 respective plural components encoded at said coefficient coding step,

wherein at said discrete wavelet transform step, said respective plural components are decomposed into different numbers of subbands for at least two  
15 components, and wherein at said code data generation step, the code data is generated by arraying a part or whole of code data of subbands at the same level among the code data corresponding to said respective plural components.

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12. The image processing method according to claim 11, wherein said plural components constructing said image data includes a luminance component and a chrominance component, and the number of applications of discrete  
25 wavelet transform at said discrete wavelet transform



a code data generation module of generating code data by arraying respective code data of said plural components subband units,

wherein in said discrete wavelet transform module,  
5 said plural components are decomposed into different numbers of subbands for at least two components, and wherein in said code data generation module, the code data is generated by arraying the code data of said plural components in subband units.

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15. A computer-readable storage medium containing a program for execution of image processing method, said program comprising:

a discrete wavelet transform module of performing  
15 discrete wavelet transform on respective plural components constructing image data;

a coefficient coding module of encoding coefficients of subbands generated in said discrete wavelet transform module; and

20 a code data generation module of generating code data by arraying code data corresponding to said respective plural components encoded in said coefficient coding module,

wherein in said discrete wavelet transform module,  
25 said respective plural components are decomposed into different numbers of subbands for at least two

